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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellant: Roger P. Jackson

Serial No.: 10/784,066 Date: July 12, 2010

Filed: February 20, 2004 Group Art Unit: 3732

Exam: David C. Comstock

For: CLOSURE FOR ROD RECEIVING ORTHOPEDIC IMPLANT HAVING LEFT HANDED THREAD REMOVAL

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Kansas City, Missouri

Appeal No._____

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

RESPONSE TO EXAMINER'S ANSWER

This is in response to the Examiner's Answer mailed May 12, 2010.

The following remarks are with respect to the Examiner's Response mailed on May 12, 2010.

The current Office rejection of Claims 1-20 is based upon obviousness combination of Schafer (properly Schäfer) and Jackson (6,004,349). The Schafer reference is relied upon to helically wound radially interlocking structure. While the Examiner's statement indicates that Schafer teaches such, simply stating that it does, does not magically make such a teaching.

The structures of Schafer are not helically wound and the reference does not teach such. The Examiner relies heavily upon the term "screwed in", but other structures than helically wound devices can be "screwed in". As noted before, Schafer is a push and twist device that rotates probably about ninety degrees and less than three hundred and sixty degrees. Such a structure is "screwed in". One having ordinary skill in the art would recognize this.

Schafer is not helically wound and the Schafer application supports that it is not for the following reasons.

In the Schafer device shown in Fig. 1 and substantially described in the application, the thread is a reverse angle thread, but it is not a helically wound thread. It is nowhere stated in Schaefer that the thread of Fig. 1 is helically wound and nowhere is it stated or shown that the thread on the closure is a full circumferential thread which is required in order for

the thread to be helically wound. Otherwise, the closure would fall out of the bone screw head during rotation when the threads on the arms did not align with the threads on the closure. The statement that it is a thread does not make it a helically wound thread. The device of Fig. 1 of Schaefer is clearly a screw-in or twist-in type device of less than 360 degrees (most likely approximately 90 degrees) and there is no suggestion in the specification that it is otherwise. Schafer more clearly shows such in other art of record.

Further evidence that Schaefer never intended the device of Fig. 1 to be helically wound, is found in the following paragraph taken from Schaefer '798.

> In another embodiment, the pitch angle of the individual flanks in at least one section of the thread, from the bottom of the groove to the free ends of the legs of the bifurcated head, is the same, increases or decreases. (Underlining added)

This paragraph clearly indicates that the pitch angle or slope (which is identified as the angle alpha) for the loading or downward facing flank is different in at least one other section of the screw head. This could be interpreted that different tiers of the thread have different pitch angles, but this would produce a device that cannot be helically wound and that does not work well as even a twist and turn device or otherwise. This

wording can also be interpreted that the pitch angle varies along two sections that are in a single tier of a thread.

This works well with a twist and turn device, since the mating surfaces bind up when the angles change, thereby allowing the closures to be locked in the head with a specific rotation of less than three hundred and sixty degrees. It is impossible for a helically wound thread to vary in pitch angle along the length of the thread because the closure would bind and lock up before completing even one entire revolution. Therefore, the device of Fig. 1 cannot be helically wound and no one having skill in this art in the period between the filing of Schaefer and the filing of appellant's application would understand Schaefer Fig. 1 to be helically wound, after careful study of the drawings and specification. In addition, the threadforms shown in Fig. 1 have a tight press fit (that is, there is no space or gap between the non-loading lower thread surfaces to allow complete rotation between the parts), further supporting this opinion.

In Fig. 2 of Schaefer is shown a head of a bone screw only. The closure is not shown, but the head and description suggests that they would radially interlock. The device shown in Fig. 2 is also not helically wound. The tiers of the receiving channels are essentially horizontal to the rod seat and to the top surface of the screw head and also to each other and, therefore, the channels can not have the circumferential pitch or slope required

for the channel of one tier to rise to mate or align with the channel of the opposite next tier up. Consequently, the device of Fig. 2 cannot be helically wound.

In summary, it is urged that Schafer fails to show, teach, suggest or make obvious to one having ordinary skill in the art a radially interlocking helically wound structure and the pending claims should all be allowable over any combination of the cited Schafer and Jackson references.

Respectfully submitted,

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Roger P. Jackson

By _____

July 12, 2010

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(Date of Signature)